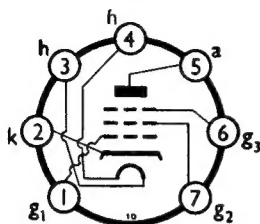




# **MINIATURE R.F. PENTODE 6.3V INDIRECTLY HEATED**

**ZTT**  
APRIL, 1952

## **BASE CONNECTIONS AND VALVE DIMENSIONS**



View from underside  
of base.

Base : B7G  
Bulb : Tubular  
Overall length : 49—55 mm.  
Seated length : 43—49 mm.  
Max. diameter : 19 mm.

## **RATING**

### **Pentode Connection**

$V_h$	6.3	V
$I_h$	0.3	A
$v_{h-k}$ (pk)	150 max.	V
$V_a$	250	V
$V_{g2}$	250	V
$P_a$	2.5 max.	W
$P_{g2}$	0.8 max.	W
$r_a$	$\left. \begin{array}{l} 0.3 \\ 7.5 \end{array} \right\} \text{ at } V_a = V_{g2} = 250, I_a = 10 \text{ mA}$	M $\Omega$
$g_m$		mA/V

### **Triode Connection**

$I_k$	30 max.	mA
$V_a, g_2$	250 max.	V
$P_a, g_2$	3.3 max.	W
$\mu$	$\left. \begin{array}{l} 75 \\ 10 \\ 7.5 \end{array} \right\} \text{ at } V_a, g_2 = 250, V_{g1} = -2$	k $\Omega$
$r_a$		mA/V
$g_m$		

## **CAPACITANCES (of cold unscreened valve)**

$C_{g1-all}$	7.4	pF	$C_{a-all}$	3.1	pF	$C_{a-g1}$	0.009	pF
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## **TYPICAL OPERATION**

### **Class A Amplifier. Pentode Connection**

$V_a$	250	V
$V_{g2}$	250	V
$V_{g3}$	0	V
$I_a$	10	mA
$I_{g2}$	2.5	mA
$V_{g1}$	-2 approx.	V
$R_k$	160	$\Omega$

**MARCONI'S WIRELESS TELEGRAPH COMPANY LIMITED**

Head Office: Marconi House, Chelmsford . Telephone: Chelmsford 3221 . Telegraphic Address: Expanse, Chelmsford

## Mixer. Pentode Connection

Series injection to  $g_1$ .

$V_a$	250	V
$V_{g2}$	250	V
$V_{g3}$	0	V
$I_a$	4.5	mA
$I_{g2}$	1.5	mA
$R_k$	680	$\Omega$
$g_c$	2.7	mA/V
$v_{osc}$ (pk)	4.5	V

## Class A. Amplifier. Triode Connection

$V_a, g_2$	250	V
$V_{g1}$	-2 approx.	V
$I_a, g_2$	12.5	mA
$R_k$	160	$\Omega$
$\mu$	75	
$g_m$	7.5	mA/V
$r_a$	10	k

## Class A Amplifier. Pentode Connection

$V_a, g_3$	28	V
$V_{g2}$	8	V
$I_a$	0.75	mA
$I_{g2}$	0.15	mA
$R_L$	22	k $\Omega$
$R_k$	2.2	k $\Omega$
Gain	30	db

Whenever possible, a potentiometer supply should be used for  $V_{g2}$ .

## GENERAL

At  $V_a = V_{g2} = 250$ ,  $V_{g3} = 0$ ,  $I_a = 10$  mA.

$C_{g1-k}$	10	pF
$C_{a-k}$	3	pF
$C_{h-k}$	4	pF
$r_{g1-k}$ (at 45 Mc/s)	9	k $\Omega$
$r_{eq}$ noise ref $g_1$	1.0	k $\Omega$

Under conditions of maximum anode and screen dissipation, the D.C. resistance between control grid and cathode must not exceed 0.5 M $\Omega$  with auto-bias, or 0.1 M $\Omega$  with fixed bias.

## SCREENING

No internal or external screening is fitted to the valve.

## MOUNTING

Any position.

**RETAINING**

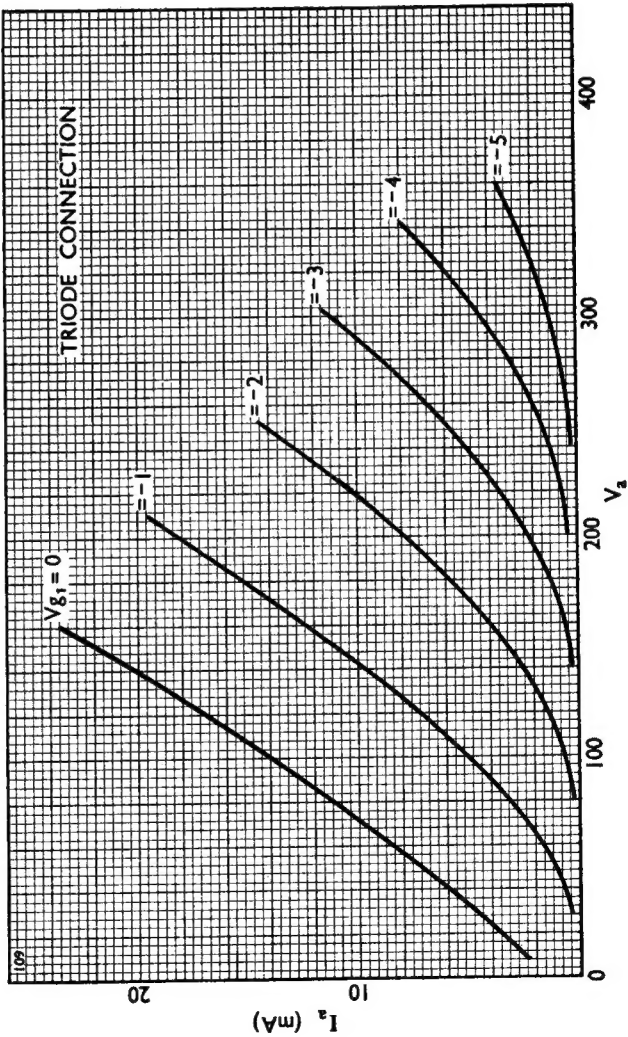
A retaining device should be used.

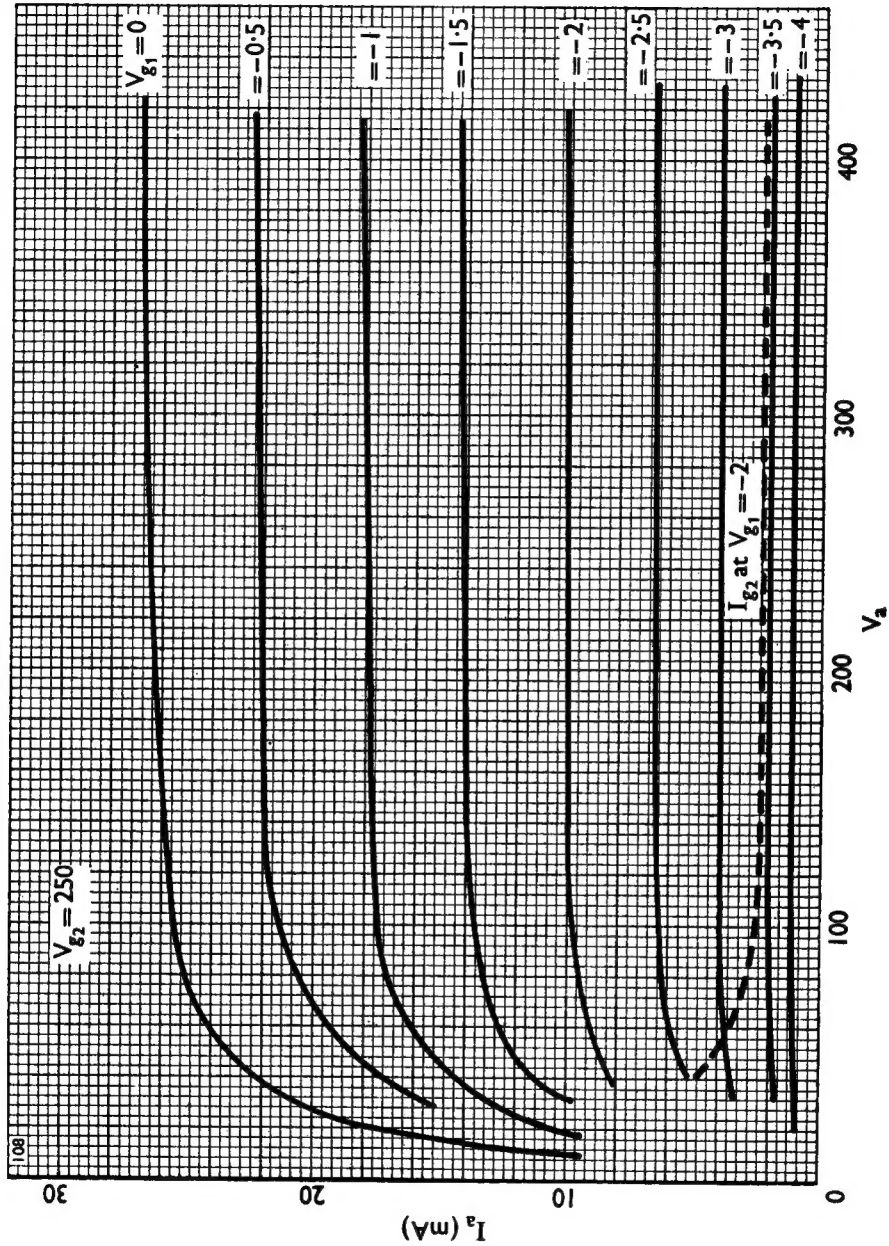
**VENTILATION**

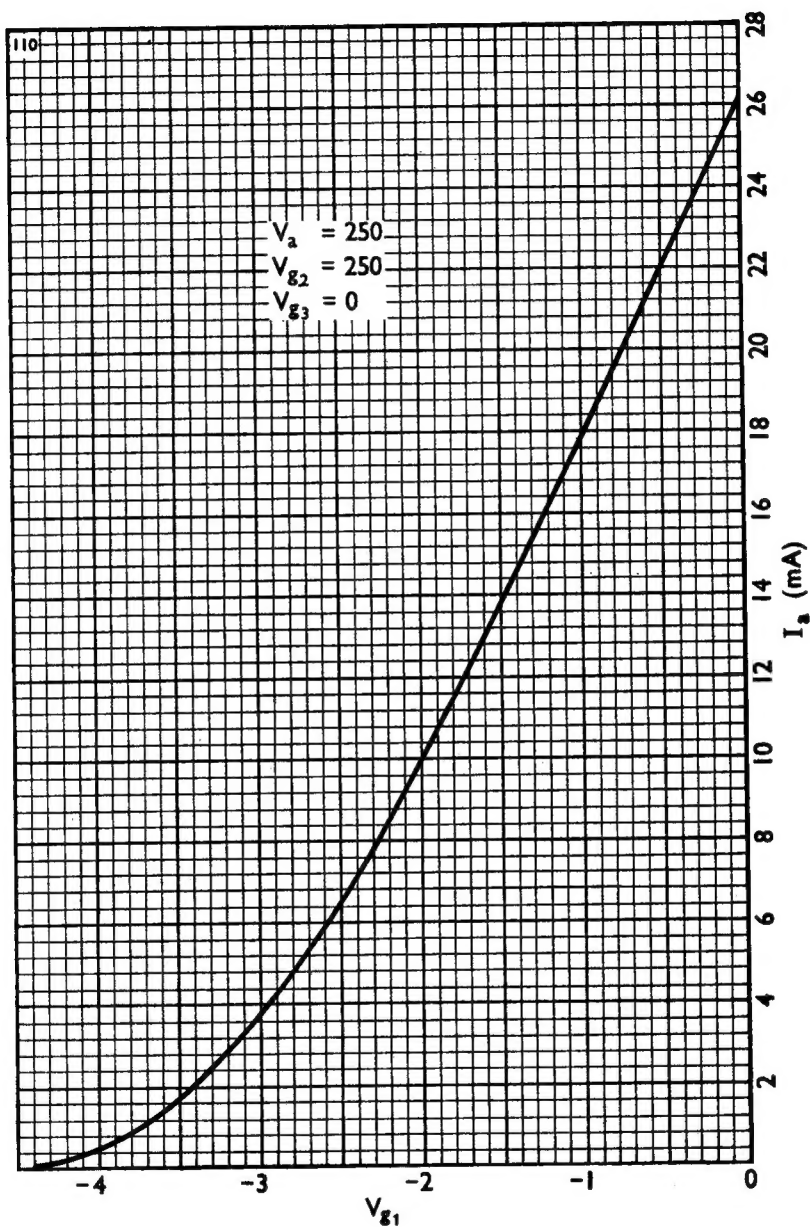
The valve and screening canister should be mounted to provide as much free air circulation as possible.

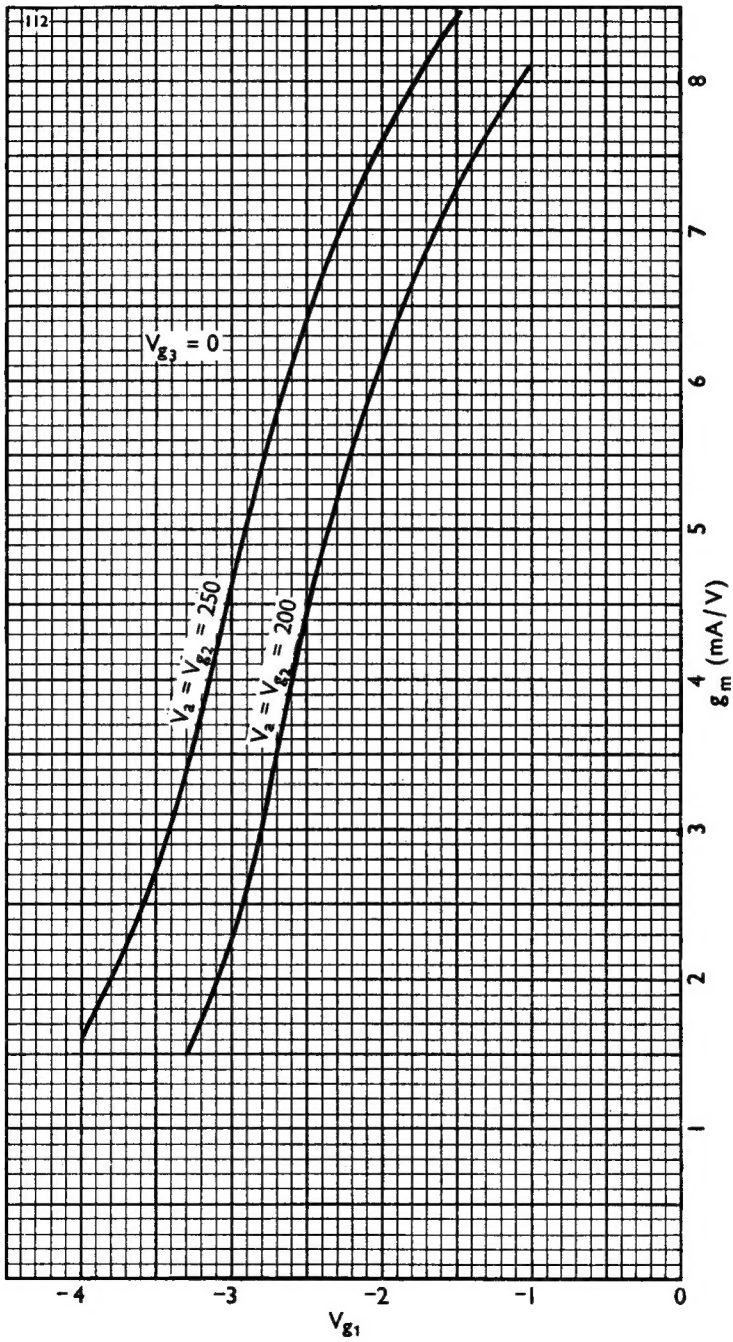
**MICROPHONY**

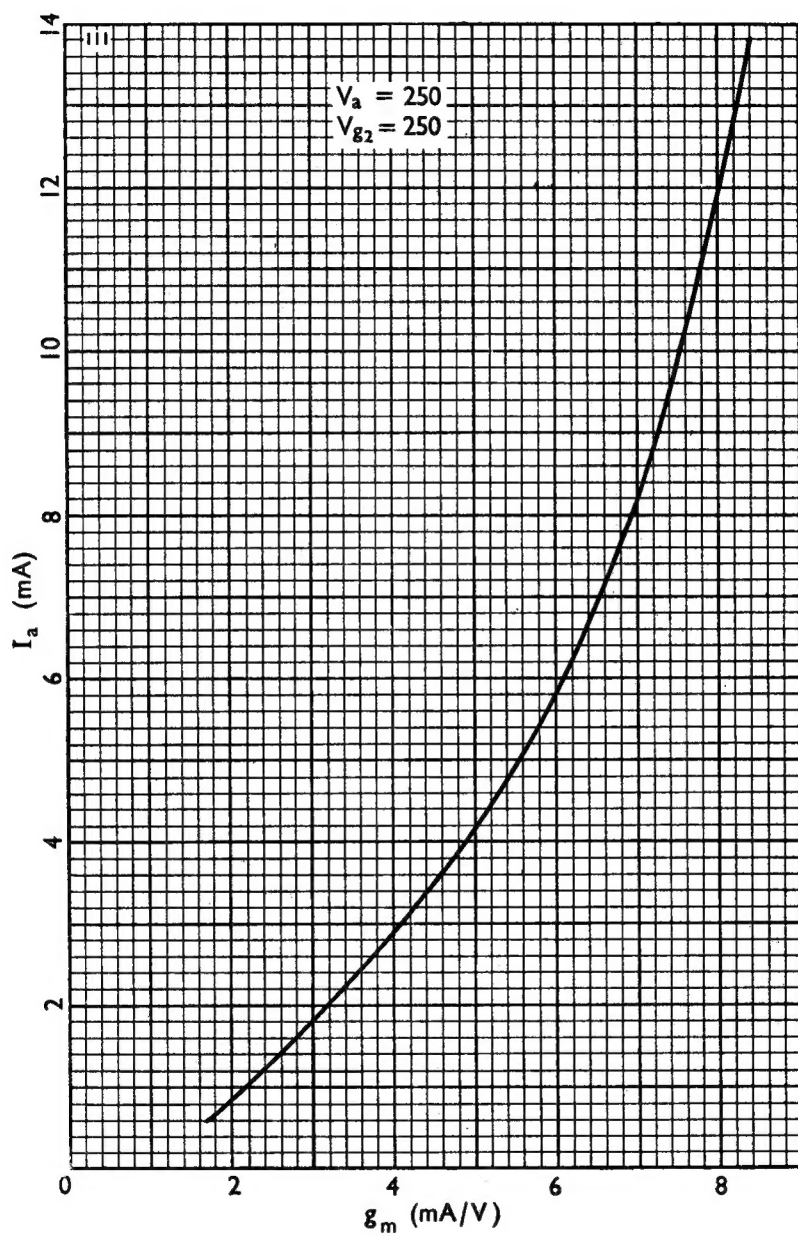
Although this is of a very low order, equipment should be designed to minimise microphony.

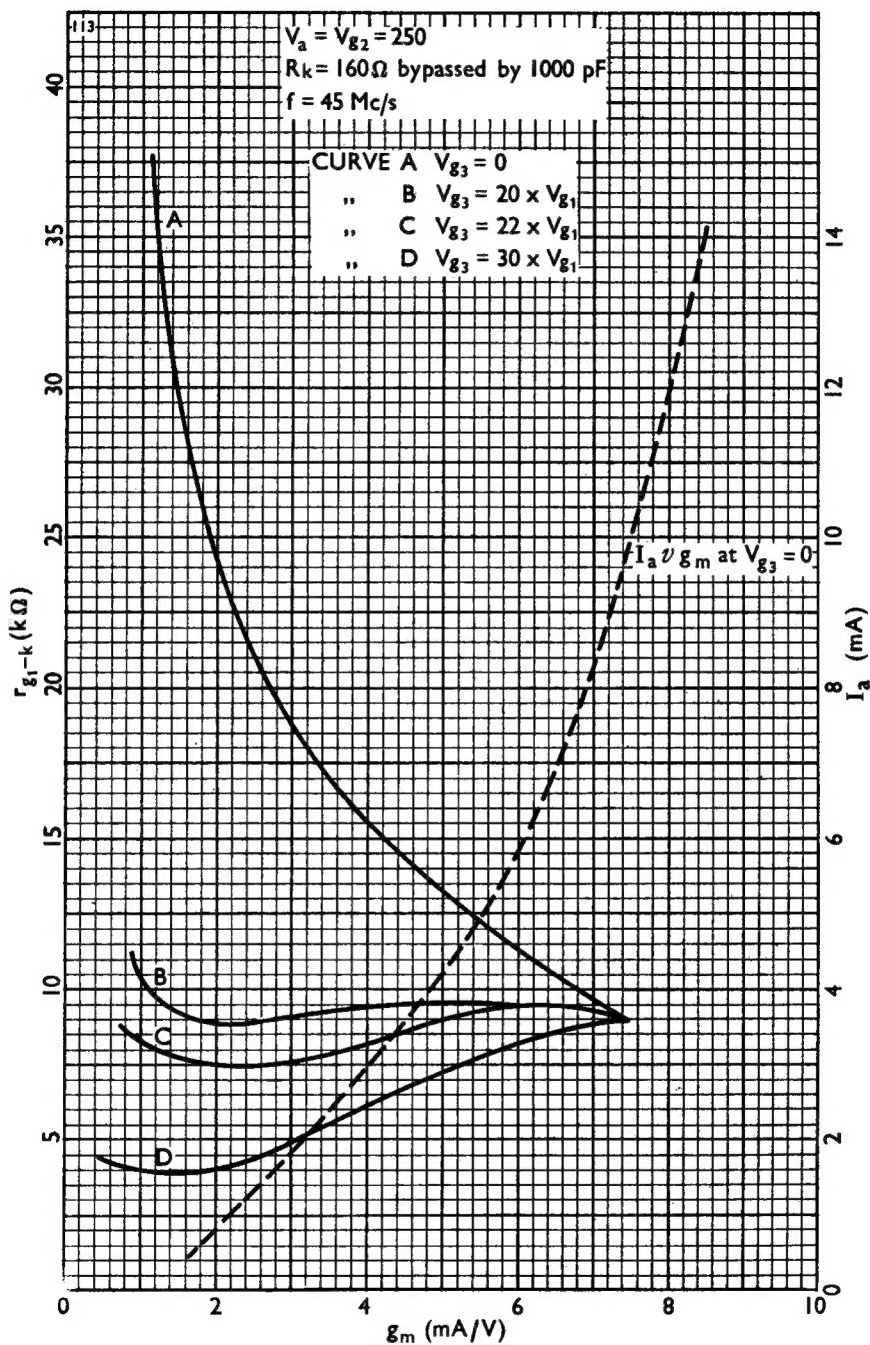




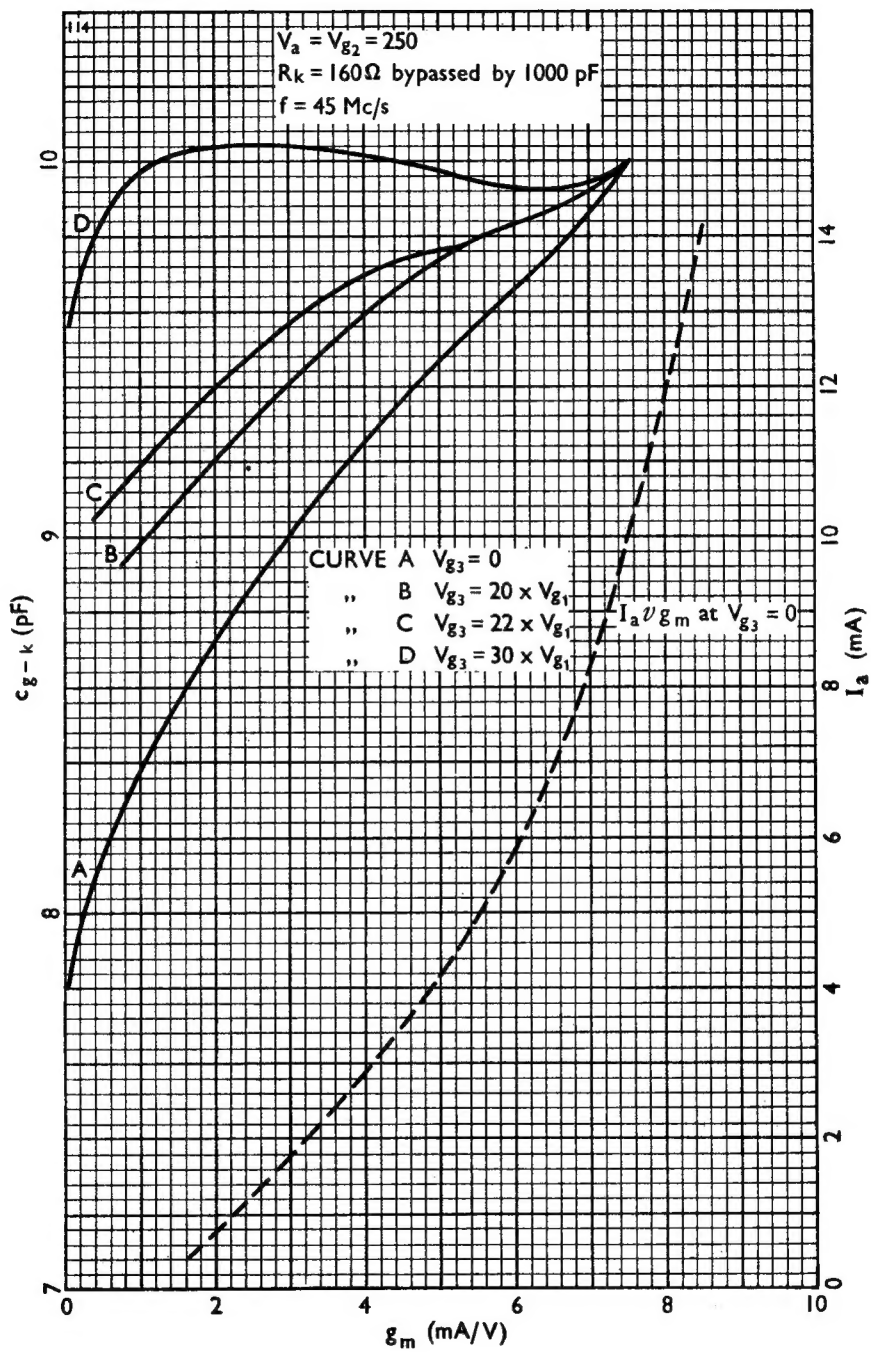


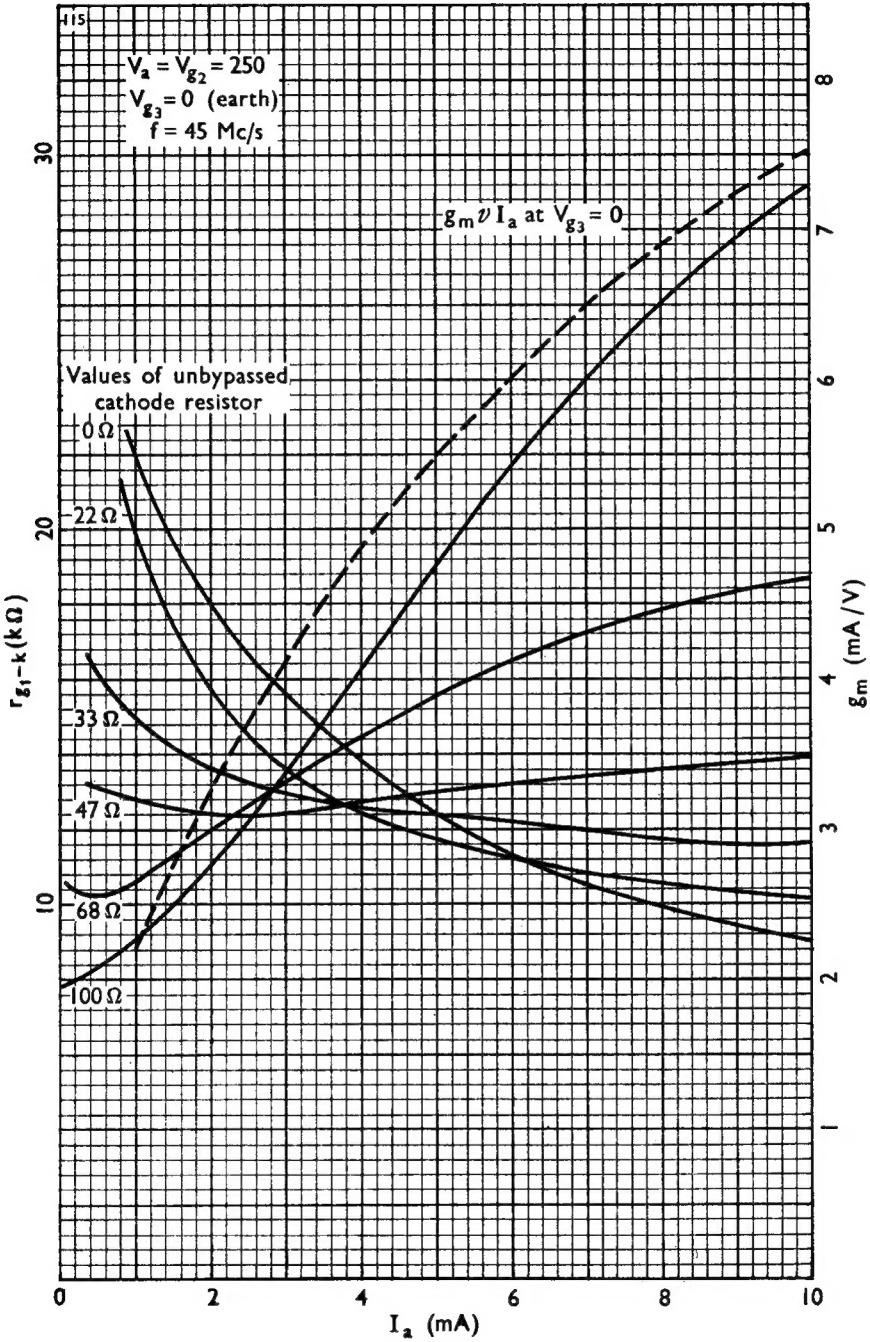


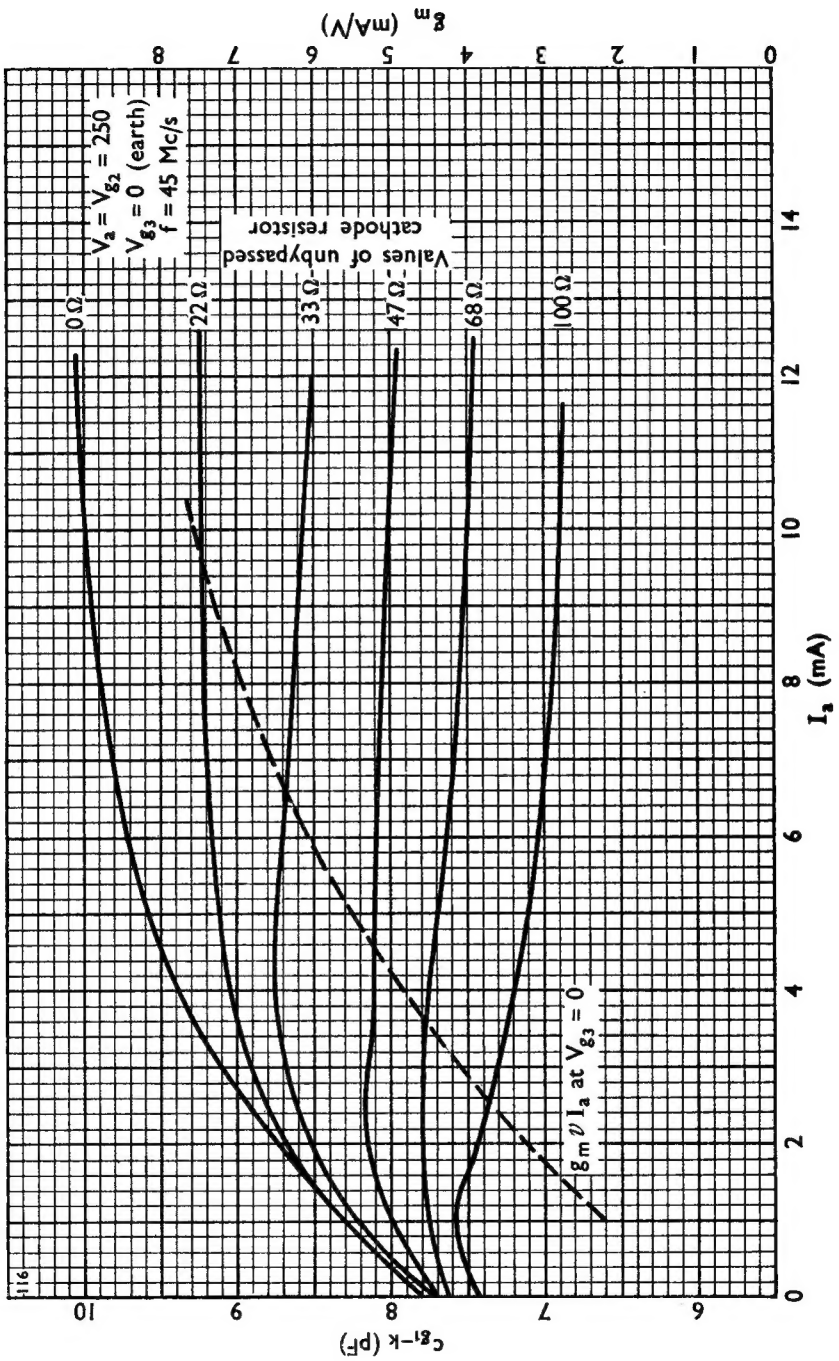












**Z77**